BOTANY AND EARLY MEDICINE

Ever since Hermes offered Odysseus a "noble plant" to overcome the spells of Circe, literature has abounded with references to the gathering of herbs. All primitive peoples, while searching for food among the herbs of the countryside, must have learned that some plants alleviated pain. Magic powers were frequently ascribed to the plants as a result, and botany was distorted by strange beliefs until well into the 17th century.

The early herbals at first had an exclusively medical aim. It was not until the late 15th century with the advent of the printed book that an advance was made in the study of plant form. By the end of the 18th century, the work of Linnaeus and others had marked out the main fields of botany, and the more modern aspects became the subject of research and teaching in the universities. The study of botany as such is not included in this exhibition which is limited to the earlier material.

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Sections I and II - Early herbals

The earliest item in the exhibition, an "Antiqua Medica" in facsimile form, gives a fascinating glimpse of how man regarded herbs over a very long period. The text of the Codex Vindobonensis 93* is based upon material which was circulated freely as early as the first century B.C. Manuscripts of this sort were copied avidly from that period until the end of the "dark ages". Typical herbal remedies include treating the victim of snake-bite with a decoction made from the heliotrope plant which has leaves shaped like a salamander. Incredible as it may seem to us, Robert Lovell's Herball of 1665 (displayed in case 4 of the ex-

* The underlining of any author's name or of a title indicates a reference to an item in the exhibition.

hibition) offers similar remedies: for spots, spotted lungwort; for the jaundice, saffron.

The Materia Medica of Dioscorides, a medical man of Asia Minor in the first century A.D., is the best known of the manuscript herbals. So influential was this compilation of folklore and botany that 1600 years later it was still described as "the foundation and grounde-worke of all that hath since been delivered". All the early printed herbals were expositions and commentaries upon Dioscorides. Even Crescenzi's Ruralia commoda, a beautiful incunabulum which has the distinction of being the first printed work about agriculture, follows him in the pages shown. After the appearance of a French translation of Dioscorides by Ruelle in 1516, Latin translations became common. The most successful was that of Mattioli (1501-1577). Coming from the same Mediterranean area as the master, he could identify his native plants with those of the original Materia Medica. Botanists north of the Alps were not as lucky, and at first strove in vain to make their plants match Dioscorides' descriptions.

During the Renaissance, however, the geographical differences between the different floras were gradually recognized. Botanists all over Europe began to look more closely at their native plants. With the coming of moveable type, the book illustrators assumed a new importance. Instead of copying slavishly from the old manuscript herbals, the artists began to draw direct from nature for the wood-engravers. The success of Brunfels, Fuchs and Bock in Germany depends to a large degree upon their artists' skill.

Hieronymus Bock, the second of the Fathers of Botany in Germany, whose De Stirpium Commentarium is displayed, recognized the corolla, stamens and pistils as essential parts of many flowers, and may well be

the first botanist to have realized the need for classification. His contemporary, Leonhart Fuchs, is of great importance in the history of illustrated botany books. Although he made no effort at classification or plant geography, he was a Renaissance man knowing the plants of western Europe and even America. He identified maize (Indian corn), for instance, although he thought that it came from Turkey. When fuchsia came from America, it was named for him.

Section III - Travels outside Europe

The Renaissance brought an end to provincialism in most European countries. Prosper Alpini, an Italian physician, who travelled through the Greek islands and Egypt between 1580 and 1583, made his medical discoveries the subject of a book. Garciá de Orta, a doctor from Portugal, was physician to the viceroy of India from 1554 to 1555 and made an intensive study of Indian plants from which drugs were derived. Willem Piso of Holland wrote a pioneer work on tropical medicine in 1648. Jacques Philippe Cornut, a French botanist, in 1635 produced the first Canadian herbal, the Canadensium Plantarum Historia, of which a first edition is displayed. About 30 Northeast-American plants are first described and illustrated in this volume.

As a result of this broadening in knowledge, a botanist called Joseph Petton de Tournefort was able to produce his great landmarks in botany. His first book "Elemens de botanique" in 1694 covered all plants then known in the world. Drawing upon Cesalpino and Bauhin, he devised a classification scheme based upon plant form and corolla structure. His later work, "Institutiones rei herbariae", set up a polynomial nomenclature which remained the standard nomenclature until Linnaeus's binomial form

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was introduced in 1753. John Martyn's translation [displayed] is considered to be the earliest botanical book published in England in parts.

Section IV - England

English herbalists are considered relatively undistinguished. An English translation of the work of the Flemish botanist Dodoens formed the basis of the early English herbals. Gerard's well-known Herball or generall historie of plantes which first appeared in 1597 was really a re-working of the manuscript of Dr. Joseph Priest, who had been engaged in translating Dodoens at the time of his death. Numerous errors were left uncorrected because of Gerard's impatience; but nevertheless, nothing supplanted it in England until Parkinson's "Paradisi in sole paradisus terrestris" appeared in 1629. In 1636, Thomas Johnson re-edited Gerard's work, and it is upon Johnson's edition [displayed] that Gerard's fame rests.

In 1640, Parkinson's Theatrum Botanicum appeared. While he described nearly 4,000 plants, almost 1000 more than Johnson's edition of Gerard, and made great efforts to get accurate information, he made little progress in classification. It was left to John Ray whose Catalogus plantarum is displayed, to lay the foundations of scientific botanical classification in England and indeed in Europe, for Candolle and de Jussieu based their systems on his work.

More English herbals are shown in case 8 of the exhibition. John Hill's British herbal of 1756 is a lavish production with 1500 plant-illustrations of varying accuracy. Hill does not follow Linnaeus consistently in this work, although four years later in his "Flora Britannica" he was the first English botanist to do so. Woodville's Medical botany, a beautiful and accurate compilation in four volumes, is a notable achieve-

ment. The preface states that "the accurate delineations are by Mr. Sowerby, an artist of established reputation, whose talents are not less conspicuous in the correctness than in the beauty of his designs". Sowerby engraved as well the magnificent frontispiece of Withering's An account of the foxglove. Admired for the beauty of its book production (the printer, Swinney, is said to have trained in Baskerville's foundry), the work is also a milestone in the history of medicine. It is the first scientific treatise on the use of a medicine derived from a plant.

Sections 5 and 6 - Pharmacopoeias

The term "pharmacopoeia" first appeared as a distinct title in a work published at Basel in 1561, but was not in common use until the beginning of the next century. The first work of this kind, published under government authority, was in Nuremberg in 1542. Before that time, the apothecaries used the treatises on simples by such authorities as Avicenna, Serapion and Nicolaus de Salerno.

Before the seventeenth century in England drugs and medicines were sold by the apothecaries and grocers. In 1617 the apothecaries obtained a separate charter, and grocers were forbidden to sell drugs. In 1618 the College of Physicians brought pressure to bear upon the apothecaries to dispense accurately, by issuing the first authorized London Pharmacopoeia, and by setting up a system of inspection of the apothecary shops. The first London Pharmacopoeia was so full of errors that the whole issue had to be withdrawn. It was reissued the following year, still full of ancient simples. The four succeeding editions during the 17th century continued the tradition, and it was not until the edition of 1721, published under the auspices of Sir Hans Sloane, that any real alterations were made. For the first time the botanical names of herbal remedies

were added to the traditional ones, and despite the retention of strange remedies such as earthworms, moss from the human skull and dogs' excrement, many improvements were instituted. Further improvements came with subsequent editions, but not without a great deal of trouble and dissatisfaction to doctors and chemists alike.

Today many countries have national pharmacopoeias issued under the authority of their governments.

The pharmacopoeias exhibited, a selection from the large collection in the Library, are from the 17th and 18th centuries except for the American example of 1820. Also shown are a few of the attacks made upon the apothecaries. The apothecaries' point of view is represented by The Physical Dictionary of 1657 which begs in its introduction "that the unspotted innocency of an action be a sufficient barricado to oppose the thundring and pell-mell granadoes of impertinent contradiction and malevolent censure".

Section 7 - Individual plants

An amusing selection of the opinions which were current in the 17th and 18th centuries about the properties of various plants.

Rachel Jones